

U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Columbia Smelting and Refining Works - Removal Polrep  
 Initial Removal Polrep



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**Region II**

**Subject:** **POLREP #1**  
**Interim Actions Initiated - PJ1**  
**Columbia Smelting and Refining Works**  
**A24F**  
**Brooklyn, NY**  
**Latitude: 40.6738570 Longitude: -74.0057794**

**To:** Judith Enck, USEPA Region 2  
 Catherine McCabe, USEPA Region 2  
 Lisa Plevin, USEPA Region 2  
 Walter Mugdan, USEPA Region 2 ERRD  
 Angela Carpenter, USEPA Region 2 ERRD  
 Joe Rotola, USEPA Region 02 ERRD-RAB  
 Eric J. Wilson, USEPA, Region 02, ERRD-RAB  
 Chloe Metz, USEPA Region 2 ERRD  
 Andrew Prashak, USEPA Region 2 ORC  
 Natalie Loney, USEPA Region 2 PAD  
 Elias Rodriguez, USEPA Region 02, PAD  
 Kevin Jeffrey, NYC Parks  
 Mary Salig, NYC Parks  
 Kay Zias, NYC Parks  
 Joel Bermejo, NYC Parks  
 Sam Biederman, NYC Parks  
 Maeri (Mae) Ferguson, NYC Parks  
 Marty Rowland, NYC Parks  
 Haley Stein, NYC Law Department  
 Christopher D'Andrea, NYC Dept. of Health and Mental Hygiene  
 Maureen Little, NYC Dept. of Health and Mental Hygiene  
 Robert Cozzy, NYSDEC Headquarters  
 Jane O'Connell, NYSDEC Region 2  
 Stephanie Selmer, NYSDOH Headquarters  
 Justin Deming, NYSDOH Region 2

**From:** Margaret Gregor, On-Scene Coordinator  
**Date:** 4/1/2015  
**Reporting Period:** 3/23/2015 through 4/1/2015

**1. Introduction**

**1.1 Background**

<b>Site Number:</b>	A24F	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical

<b>Response Lead:</b>	PRP	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	3/23/2015	<b>Start Date:</b>	3/23/2015
<b>Demob Date:</b>		<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	NYN000206593	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

### 1.1.1 Incident Category

Inactive Production Facility

### 1.1.2 Site Description

The site is the location of a former secondary smelter in a mixed recreational, residential, commercial and industrial area of the Red Hook neighborhood in Brooklyn, New York. It includes the historic footprint of the former Columbia Smelting and Refining Works facility (Columbia), which is currently developed with a baseball/softball field, and the extent of lead-contaminated soil associated with this historic facility. The site is within Red Hook Park, a 58-acre park owned by the New York City Department of Parks and Recreation (NYC Parks).

Several companies including Columbia Smelting and Refining Works operated a secondary smelting plant at the southeast corner of Lorraine and Hicks Street from the mid-1920s through the late 1930s. Columbia manufactured several types of metals, including white metals and alloys, brass and bronze ingots, soft lead, antimonial lead, Babbitts, solder, type metals, terse metal, Britannia metal, die-cast metal, unbreakable metal and rerun zinc. While the facility was operating, most areas of the block where it was located were undeveloped. The building was demolished in the late 1930s, and the block was developed with four ball fields (field numbers 5 through 8) and two cricket courts. This block is approximately four acres in size. The footprint of the historic facility now includes Red Hook Ball Field #7 and a MTA bus stop.

NYC Parks learned of the historic Columbia facility in 2012 and collected soil samples from the ball fields on this block in February and March 2012. Lead concentrations up to 2,630 parts per million (ppm) were detected at the fields. In response, NYC Parks added an inch of infield material to each of the four infields and resampled them, hydroseeded the outfields and closed the fields for four to six weeks to increase grass cover, added wood chips to areas with bare soil, and excavated and paved over the Henry Street entrance to the park which had contained high lead levels. Also in 2012, the New York State Department of Environmental Conservation (NYSDEC) began independently screening the site as part of a nationwide portfolio of potential historic smelter sites. After screening the site, NYSDEC referred it to EPA for review in early 2014. EPA is investigating the site due to the referral from NYSDEC.

#### 1.1.2.1 Location

The historic smelter facility was addressed as 98 Lorraine Street. The block where the historic smelter was located is bordered by Lorraine, Henry, Bay and Hicks Streets to the north, east, south and west, respectively. This block is surrounded by a large residential public housing complex (Red Hook East Houses) to the north, a community pool (Red Hook Pool) within Red Hook Park to the east, the remainder of Red Hook Park and associated recreational areas to the south, and residences as well as a condemned former industrial plant (a food and cosmetic dye manufacturer) to the west. A daycare center (Bumble Bee Daycare) is present among the residences to the west, and several playgrounds are present within the residential complex to the north. Available wind rose charts indicate that the prevailing winds in the vicinity of the Site are predominately to the southeast, with limited components to the north and southwest.

#### 1.1.2.2 Description of Threat

Data from NYC Parks' 2012 soil sampling indicated that elevated lead levels were present in soil throughout the block which contains the footprint of the historic smelter facility, including lead levels of 999 and 1,600 ppm in the outfields and up to 2,630 ppm in the subsurface of the infields. Although actions taken by NYC Parks in 2012 helped to increase grass cover and in turn reduce direct contact with lead in soil at the fields, EPA observed exposed soil at the ball fields during site visits conducted between July and December 2014. Online inspection reports indicated a lack of routine maintenance at the fields in the early 2000s, and it is possible that exposed soil may be periodically present in the

outfields or other areas of the block.

Direct contact with the elevated levels of lead within the upper 12 inches of soil may occur through common recreational activities on the fields and when children touch or dig into contaminated soil. Hand washing facilities are not currently present in the immediate vicinity of the impacted ball fields. Contaminated soil may be ingested or adhere to baseball/softball cleats, other footwear, skin or clothing, and may be tracked off-site. In addition, through the typical heavy usage of the athletic fields, contaminated soil may be disturbed and become airborne and available for inhalation.

Contact with the contaminated soil, or inhalation of contaminated soil particles, may present a health risk to those utilizing the recreational fields, particularly young children. The effects of exposure to lead are the same whether it enters the body through breathing or swallowing. The main target for lead toxicity is the nervous system, both in adults and children. Lead is a cumulative poison where increasing amounts can build up in the body, eventually reaching a point where symptoms and disability occur. Particularly sensitive populations are women of child-bearing age, because of the fetal transfer of lead, and children. Cognitive deficits are associated with fetal and childhood exposure to lead. An increase in blood pressure is the most sensitive, adverse health effect from lead exposure in adults. The Department of Health and Human Services has determined that lead and lead compounds are reasonably anticipated to be human carcinogens based on limited evidence from studies in humans and sufficient evidence from animal studies, and the EPA has determined that lead is a probable human carcinogen.

### **1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

EPA began an assessment of the site in 2014. After a thorough review of historic resources and all relevant background information, in October 2014 EPA collected soil samples from the ball fields and surrounding areas in locations which had not been previously sampled. Results indicated that there are elevated lead levels in the top inch of soil on the block containing Ball Fields #5-8, averaging 635 ppm, but these lead levels are within a typical urban background range and aren't considered to be an immediate health concern. Because higher levels of lead are present from one inch to a foot below the ground surface, averaging 2,202 ppm, the EPA determined that a removal action is required to protect public health in the long term. The pattern of detections of other metals including antimony, tin, arsenic, copper, zinc and iron as well as the lead-antimony and lead-tin relationships in the upper foot of soil at the fields indicated that the contaminants in the upper foot of the ball fields can be attributed to the historic smelter.

In March 2015, EPA completed a second round of soil sampling to delineate the areas with smelter-related contamination on the block which contains the historic smelter facility footprint, and also to screen other downwind athletic fields. The samples are undergoing laboratory analysis and results are expected in April 2015.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

On February 20, 2015, EPA notified NYC Parks that a removal action is necessary at the site, and that interim actions are required to minimize the potential for direct contact with soil contaminants until a removal action can be completed. The interim actions include the following:

- Affixing hygiene stations at all egress points to the ball fields on the block bound by Lorraine, Henry, Bay and Hicks Streets, which will include sanitary hand washing stations, brush-type boot scrapers for the removal of soil from footwear, and signage with messaging agreed upon by EPA and NYC Parks to encourage use of the hygiene stations;
- Providing regular service and maintenance of the hygiene stations as required by demand to keep stations functioning effectively; and
- Participating, together with EPA, in communication with elected officials, park users, community groups and the general public regarding the above items, the ongoing investigation and the proposed removal action.

On March 6 and 19, 2015, EPA provided a scope of work for the interim actions to NYC Parks. On March 23, 2015, NYC Parks notified EPA that they would voluntarily undertake the required interim actions listed above under EPA oversight, and that they would also conduct enhanced maintenance measures at the ball fields which were discussed several times in March 2015.

### **2.1.2 Response Actions to Date**

On March 19, 2015, NYC Parks notified EPA that hand washing stations and boot scrubbers had been ordered. On March 25, 2015, EPA and NYC Parks conducted a joint site visit to evaluate placement of the hygiene stations at the egress points to the ball fields on the block. On March 31, 2015, NYC Parks submitted a plan for the interim actions to EPA, which is currently under EPA review.

In addition, starting March 23, 2015, NYC Parks conducted enhanced maintenance on the block bordered by Lorraine, Henry, Bay and Hicks Street to address areas where grass cover was sparse. This included spike aeration, addition of topsoil, hydroseeding, overseeding in more established lawn areas, and closure of the fields for 21-28 days to allow for establishment of grass cover and/or regrowth. On March 27, 2015, NYC Parks installed chain link fences eight feet in height at the egress points of the park, in place of snow fences which had been placed there in fall 2014, to prevent public access while the grass grows.

On March 25 and 26, 2015, NYC Parks notified elected officials and park users of the field closures and plans to install hygiene stations.

### **2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)**

No potentially responsible parties related to the historic on-site smelter facility owners or operators have been identified at this time.

### **2.1.4 Progress Metrics**

Enhanced maintenance has been conducted at the ball fields, and the block which contains the historic smelter facility footprint has been temporarily closed. Public access has been restricted with chain-link fences. NYC Parks has received some of the equipment for the hygiene stations.

## **2.2 Planning Section**

### **2.2.1 Anticipated Activities**

It is anticipated that NYC Parks will be installing the hygiene stations prior to re-opening of the impacted ball fields. The fields are scheduled to re-open in late April 2015.

#### **2.2.1.1 Planned Response Activities**

The plan from NYC Parks detailing the interim measures to be taken will be reviewed by EPA. Additional clay will be added to the infields and areas of bare soil along the fence line in April 2015. Hygiene stations will also be installed in April 2015.

#### **2.2.1.2 Next Steps**

EPA expects results from the March 2015 sampling in April, and the results will need to be reviewed and analyzed before the next steps can be determined. Once the extent of the site-related contamination is defined, the permanent removal action can be planned.

### **2.2.2 Issues**

There are no issues to report at this time.

## **2.3 Logistics Section**

A logistics section was not activated for this response. No logistical challenges or issues were encountered during this reporting period.

## **2.4 Finance Section**

### **2.4.1 Narrative**

Assessment funding under RST 3 contract is being utilized to conduct EPA's assessment; this section is not applicable.

## **2.5 Other Command Staff**

### **2.5.1 Safety Officer**

On January 12, 2015, the Health and Safety Plan for EPA's assessment at the site was finalized. No safety challenges or issues were encountered during this reporting period.

### **2.5.2 Liaison Officer**

The EPA OSC is acting Liaison Officer with local and government officials.

### **2.5.3 Information Officer**

Natalie Loney has been designated as the Community Involvement Coordinator for the site. Elias Rodriguez is the press coordinator. Berry Shore is the liaison for elected officials.

## **3. Participating Entities**

### **3.1 Unified Command**

The EPA OSC and the NYC Parks Commissioner for Brooklyn Borough have been identified as points of contacts for EPA and NYC Parks, respectively; however, a formal Unified Command is not necessary for this response.

### **3.2 Cooperating Agencies**

EPA is coordinating efforts with various entities that have been integral to the assessment and plans for the interim and removal actions, including but not limited to:

- New York City Department of Parks and Recreation
- New York City Department of Law
- New York City Department of Health and Mental Hygiene
- Office of the Mayor of New York City
- New York State Department of Environmental Conservation
- New York State Department of Health

## **4. Personnel On Site**

There are no personnel currently on-site.

## **5. Definition of Terms**

EPA:	United States Environmental Protection Agency
OSC:	EPA On-Scene Coordinator
MTA:	Metropolitan Transit Authority
NYC Parks:	New York City Department of Parks and Recreation
NYSDEC:	New York State Department of Environmental Conservation
ppm:	parts per million, equivalent to one milligram per kilogram (mg/kg)
PRP:	Potentially Responsible Parties
RST 3:	EPA Removal Support Team contractors

## **6. Additional sources of information**

### **6.1 Internet location of additional information/report**

Additional information can be found in the "Documents" section of this website.

For more information on lead exposure, please visit <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=93&tid=22>

### **6.2 Reporting Schedule**

POLREPS will be generated as the situation warrants.

## **7. Situational Reference Materials**

Not applicable.